

Amendments to the claims:

This listing of claims will replace all prior versions and listings of Claims in the Application:

Listing of Claims:

- 1 1. (Currently Amended) A method of treating a pathogen within an oral cavity, the method
2 comprising:
 - 3 a. testing for the presence of one or more pathogens within the oral cavity with a
4 culture; and
 - 5 b. irradiating target tissue within the oral cavity with pulsed laser light having an
6 energy of 10 Joules/cm² or greater per pulse.
- 1 2. (Original) The method of claim 1, wherein the pulsed laser light comprises a wavelength
2 in a range of 580 to 1800 nanometers.
- 1 3. (Original) The method of claim 1, wherein the target tissue is selected from the group
2 consisting of hard periodontal tissue and soft periodontal tissue.
- 1 4. (Original) The method of claim 2, wherein the target tissue corresponds to a volume of
2 soft periodontal tissue.
- 1 5. (Previously Presented) The method of claim 4, wherein the soft periodontal tissue
2 corresponds to soft periodontal tissue is within a periodontal pocket.
- 1 6. (Original) The method of claim 1, wherein the target tissue is irradiated with the pulsed
2 laser light through an optical fiber.
- 1 7. (Previously Presented) The method of claim 6, wherein the optical fiber is placed within a
2 periodontal pocket containing the target tissue.
- 1 8. (Original) The method of claim 6, wherein the optical fiber has a fiber diameter in a range
2 of 0.05 to 3.0 mm.

- 3 9. (Original) The method of claim 1, wherein the target tissue is irradiated with a fluence of
4 the pulsed laser light that is 350 Joule/cm² or greater.
- 1 10. (Previously Presented) The method of claim 1, wherein an area of the target tissue is
2 irradiated with 2 Joules or more of pulsed laser light.
- 1 11. (Previously Presented) The method of claim 1, wherein an area of target tissue is
2 irradiated with the pulsed laser light for less than 1.0 second.
- 1 12. (Previously Presented) The method of claim 3, further comprising debriding of the target
2 tissue prior to the step of irradiating target tissue.
- 1 13. (Original) The method of claim 1, wherein the one or more pathogens include a
2 pigmented gram (-) anaerobe.
- 1 14. (Currently Amended) The method of claim [[14]] 13, wherein the pigmented gram (-)
2 anaerobe is selected from the group consisting of phorphyromonas gingivalis (*Pg*) and
3 prevotella intermedia (*Pi*).
- 1 15. (Previously Presented) The method of claim 1, wherein one or more pathogens include a
2 pigmented fungus.
- 1 16. (Original) The method of claim 15, wherein the pigmented fungus is a fungus selected
2 from the group consisting of Histoplasma and Aspergillus Niger.
- 1 17. (Original) The method of claim 1, further comprising staining a bacteria.
- 1 18. (Previously Presented) The method of claim 1, wherein a substantial portion of the one or
2 more pathogens is eradicated.
- 1 19. (Canceled).
- 1 20. (Currently Amended) A method of treating a periodontal pocket, the method comprising:

- a. generating a sequence of laser pulses at an absorption wavelength; and
b. directing the laser pulses to ~~a an-outer~~ portion of periodontal tissue outside of the periodontal pocket, wherein the laser pulses penetrate through a volume of the periodontal tissue such that at least a portion of and eradicates bacteria within the periodontal pocket ~~is eradicated~~.

21. (Currently Amended) The method of claim 20, wherein the ~~outer~~ portion of periodontal tissue is selected from the group containing of dentin, cementum, bone and gum tissue.

22. (Canceled).

23. (Currently Amended) The method of claim [[23]] 21, wherein the laser pulses penetrate through the outer portion of periodontal tissue by a distance of 1.0 mm or more.

24. (Original) The method of claim 20, wherein the laser pulses are generated with a Nd:YAG laser.

25. (Original) The method of claim 20, wherein the laser pluses have energy concentrations of 17 Joules/cm² per pulse or greater.

26. (Currently Amended) The method of claim 20, wherein the laser pulses are directed to the ~~outer~~ portion of periodontal tissue from an optical fiber.

27. (Original) The method of claim 26, wherein the optical fiber has a fiber diameter in a range of 0.5 to 3.0 mm.

28. (Original) The method of claim 20, wherein the bacteria is a pigmented gram (-) anaerobe.

29. (Previously Presented) The method of claim 20, wherein the pigmented gram (-) anaerobe is selected from the group consisting of phorphyromonas gingivalis (*Pg*), ~~and~~ prevotella intermedia (*Pi*) and a pigment fungi.

- 1 30. (Currently Presented) The method of claim 20, wherein directing the laser pulses to the
2 ~~outer~~ portion of periodontal tissue also eradicates a portion of a pigmented fungus within
3 the periodontal tissue.
- 1 31. (Original) The method of claim 30, wherein the pigmented fungus is a fungus selected
2 from the group consisting of Histoplasma and Aspergillus Niger.
- 1 32. (Original) The method of claim 20, further comprising applying a staining agent within
2 the periodontal pocket, wherein the staining agent stains for the presence of living
3 bacteria.
- 1 Claims 33-42 (Canceled).